Amendments to the Claims:

Please enter this listing of claims to replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended). A process for sintering aluminum powder comprising the steps of:

a) providing an aluminum powder; and

b) heating said aluminum powder, in an atmosphere consisting ~~primarily~~ of nitrogen and a partial pressure of water vapor in the range of about 0.001 kPa to about 0.02 kPa, at a predetermined temperature and a predetermined time to sinter said aluminum powder to a transverse rupture strength of at least about 13.8 MPa and a relative density of at least about 60 % ~~, wherein said atmosphere contains a partial pressure of water vapor in the range of about 0.001 kPa to about 0.02 kPa~~;

wherein said aluminum powder is not pressed together by a mechanical force ~~that substantially deforms the particles of said aluminum powder~~ prior to or during said step of heating.

Claim 2 (previously presented). The process of claim 1, wherein said aluminum powder has a composition consisting essentially of aluminum.

Claim 3 (previously presented). The process of claim 1, wherein said aluminum powder is an aluminum alloy.

Claim 4 (previously presented). The process of claim 1, further comprising the step of mixing said aluminum powder with ceramic powder.

Claim 5 (previously presented). The process of claim 4, wherein said ceramic powder includes at least one selected from the group consisting of alumina, silica, silicon carbide, boron nitride, and refractory carbides.

Claim 6 (previously presented). The process of claim 1, further comprising the step of mixing said aluminum powder with a sintering aid.

Claim 7 (previously presented). The process of claim 6, wherein the composition of said sintering aid includes at least one selected from the group consisting of magnesium and tin.

Claim 8 (previously presented). The process of claim 1, further comprising the step of forming said aluminum powder into a shape prior to said step of heating.

Claim 9 (previously presented). The process of claim 8, wherein said step of forming includes containerization of said aluminum powder.

Claim 10 (previously presented). The process of claim 8, wherein said step of forming includes metal injection molding of said aluminum powder.

Claim 11 (previously presented). The process of claim 8, wherein said step of forming includes forming said aluminum powder by a layered manufacturing technique.

Claim 12 (previously presented). The process of claim 11, wherein the layered manufacturing technique includes the three-dimensional printing (3DP) process.

Claim 13 (previously presented). The process of claim 11, wherein the layered manufacturing technique includes the selective laser sintering (SLS) process.

Claim 14 (previously presented). The process of claim 1, wherein said partial pressure of the water vapor is in the range of about 0.003 kPa to about 0.015 kPa.

Claim 15 (previously presented). The process of claim 1, wherein said aluminum powder consists of particles in the size range of between about 1 micron to about 500 microns.

Claim 16 (previously presented). The process of claim 15, wherein the size range of said aluminum powder particles is between about 45 microns and 106 microns.

Claim 17. (canceled).

Claim 18 (previously presented). The process of claim 1, wherein in the step of heating, said aluminum powder is sintered to a relative density of at least about 75%.

Claim 19 (previously presented). The process of claim 1, wherein in the step of heating, said aluminum powder is sintered to a relative density of at least about 85%.

Claim 20 (previously presented). The process of claim 1, wherein in the step of heating, said aluminum powder is sintered to a relative density of at least about 95%.

Claims 21- 29 (cancelled).